

VULCAN

INSTALLATION & OPERATION MANUAL

VF SERIES ELECTRIC FRYERS

MODEL

VF1	ML-52913
VMF1	ML-52914
VF2	ML-52915
VMF2	ML-52916
VF90	ML-52917
VFD90	ML-52532
VF1D	ML-52538
VMF1D	ML-52539
VF2D	ML-52542
VMF2D	ML-52543



Installation, Operation and Care of MODELS VF1, VMF1, VF2, VMF2, VF1D, VMF1D, VF2D & VMF2D ELECTRIC FRYERS

SAVE THESE INSTRUCTIONS FOR FUTURE USE

GENERAL

Standard features include stainless steel fry tank and front, a high limit device, twin baskets, and a lift-out fry tank (20" wide models only) which is easily removed for cleaning.

VF1, VF2, VF1D and VF2D floor model fryers are equipped with 6" adjustable legs. They may be ordered without legs for installation on a masonry base. The fryers also can be supplied with a 4" toe base in place of legs as an optional extra.

Optional features include extra fry tanks, a large single basket supplied in place of twin baskets, syphon and strainer bags, casters (floor models only), stainless steel fry tank cover, and extra sets of twin baskets or single baskets. Stainless steel side(s) and back are also available optionally.

MODEL	WIDTH / STYLE	CONTROLS	AUTOMATIC BASKET LIFT	MELT CYCLE
VF1	20" Floor model	Mechanical	Opt.	Opt.
VMF1	20" Countertop	Mechanical	Opt.	Opt.
VF2	24" Floor model	Mechanical	Opt.	Opt.
VMF2	24" Countertop	Mechanical	Opt.	Opt.
VF1D	20" Floor model	Solid State	Opt.	Std.
VMF1D	20" Countertop	Solid State	Opt.	Std.
VF2D	24" Floor model	Solid State	Opt.	Std.
VMF2D	24" Countertop	Solid State	Opt.	Std.
VF90/VFD90	20" Frymate	N/A	N/A	N/A

The VF90 and VFD90 Frymate Work Stations may be installed next to any of the VF Series Fryers. The top draining section has a lift-out screen and center drain into a 3-quart, slide-out drain pan. The interior of the cabinet has storage space for 4 standard #200 pans in drawer-type, non-tilt pan slides. Pans are not supplied with the Frymate.

The Frymate is equipped with 6" adjustable legs. It may be ordered without legs for installation on a masonry base, or with a 4" toe base in place of legs as an optional extra.

INSTALLATION

Before installing the fryer, verify that the electrical supply agrees with the specifications on the fryer data plate which is located on the inside of the door panel on floor model fryers and on the lower front cover on countertop models.

UNPACKING

Immediately after unpacking the fryer, check it for possible shipping damage. If the fryer is found to be damaged, save the packaging material and contact the carrier within 15 days of delivery.

Do not use the door or its handle to lift or move the fryer.

LOCATION

The fryer may be installed at 0" clearance from the back or side walls. The fryer must be installed at least 16" away from any open top flame appliance. Position the fryer for easy accessibility for service.

INSTALLATION CODES AND STANDARDS

Vulcan fryers must be installed in accordance with:

In the United States

1. State and local codes.
2. National Electrical Code ANSI/NFPA No. 70 (latest edition). Copies may be obtained from The National Fire Protection Association, Batterymarch Park, Quincy, MA 02269.
3. NFPA Standard #96.

ELECTRICAL CONNECTIONS

WARNING: ELECTRICAL AND GROUNDING CONNECTIONS MUST COMPLY WITH THE APPLICABLE PORTIONS OF THE NATIONAL ELECTRICAL CODE AND/OR OTHER LOCAL ELECTRICAL CODES.

WARNING: DISCONNECT ELECTRICAL POWER SUPPLY AND PLACE A TAG AT THE DISCONNECT SWITCH TO INDICATE THAT YOU ARE WORKING ON THE CIRCUIT.

Position the fryer in its final location. Select the size and type of wire in accordance with National Electrical Code suitable for carrying the fryer's rated amps and voltage. Use wires suitable for 75°C on fryers carrying more than 80 amps.

1. Bring conduit containing the proper supply wire to the fryer.

On VF1/VMF1 and VF1D/VMF1D, bring the conduit in through the clearance hole in the back and terminate on the terminal block housing mounted in the back of the breaker box.

On VF2 and VF2D, terminate the field supply conduit on the corner of the bottom floor and bring the supply leads into the breaker box through the removable channel mounted to the right side.

On VMF2 and VMF2D, bring the conduit through the opening in the bottom toward the front of the fryer.

2. Connect the supply leads to the field terminal block and the green grounding lead to the labeled ground lug.

Fryers wired for 3-phase service may be changed to 1-phase or vice versa by relocating two wires on the terminal block as shown on the wiring diagram and the schematic decal which is attached to the fryer.

ELECTRICAL DATA CHART

MODEL	TOTAL K.W. CONN.	3-PHASE LOADING			NOMINAL AMPS PER LINE WIRE											
		KW PER PHASE			3 PHASE									1 PHASE		
		208, 240 & 480 V.			208 V.			240 V.			480 V.			208	240	480
		X-Y	Y-Z	X-Z	X	Y	Z	X	Y	Z	X	Y	Z	V.	V.	V.
VF1/VMF1, VF1D/VMF1D	12	3.8	3.8	4.2	34	33	34	29	28	29	15	14	15	58	50	25
VF2/VMF2, VF2D/VMF2D	21.0	5.25	10.5	5.25	44	66	66	38	57	57	20	30	30	101	88	44

LEVELING

Level floor model fryers. Place a carpenter's level on top of the fryer and turn the adjustable legs to level fryer front-to-back and side-to-side.

Countertop models must be placed on a level surface.

BEFORE FIRST USE

Clean fryer thoroughly, following procedures described in this manual under CLEANING — WEEKLY OR AS REQUIRED. Clean all fryer accessories. Rinse all parts thoroughly and wipe dry.

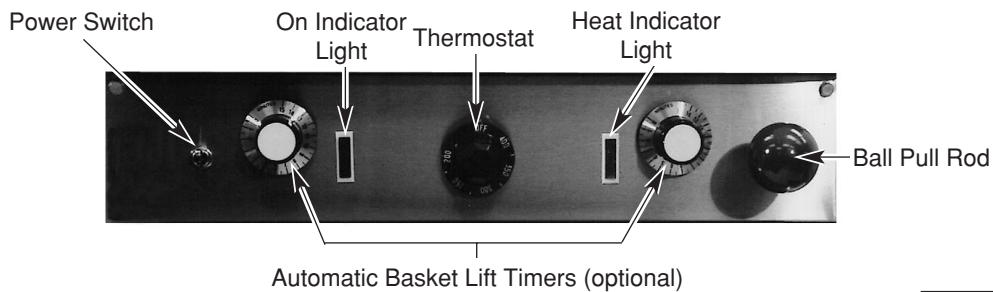
Lightly season backsplash area to avoid possible surface corrosion. With a soft, lint-free cloth, apply a thin layer of cooking oil over entire backsplash area. This should also be done after every cleaning.

OPERATION

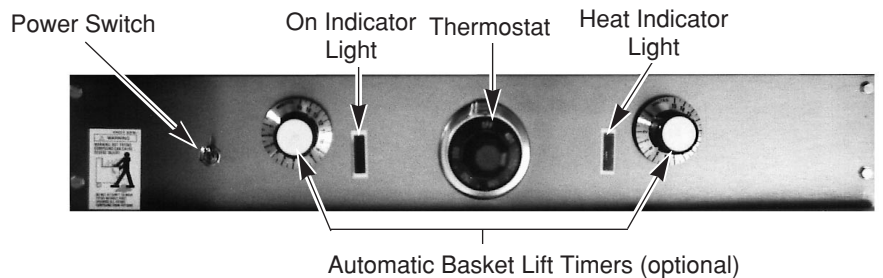
WARNING: HOT OIL AND PARTS CAN CAUSE BURNS. USE CARE WHEN OPERATING, CLEANING AND SERVICING THE FRYER.

CONTROLS — MODELS VF1/VMF1 and VF2/VMF2 (Fig's. 1 & 2)

- Power Switch** — Turns electric power to the fryer on or off.
- ON Indicator Light** — (Red) Indicates electric power to the fryer is on.
- HEAT Indicator Light** — (Amber) Indicates heating elements are supplying heat.
- Thermostat** — Controls temperature of oil in tank. Temperature range is 0-400°F.
- Fry/Melt Switch** — (Optional - Not shown.) Position on MELT when solid shortening is being melted; then position on FRY for normal operation.
- Automatic Basket Lift Timers (Optional)** — Set to desired frying cycle time. At end of set time, baskets will automatically raise. Timer range is from 0 to 15 minutes.
- Ball Pull Rod** — (Models VF1/VMF1 only.) Raises elements from tank when pulled straight out. Lowers elements into tank when pushed in.



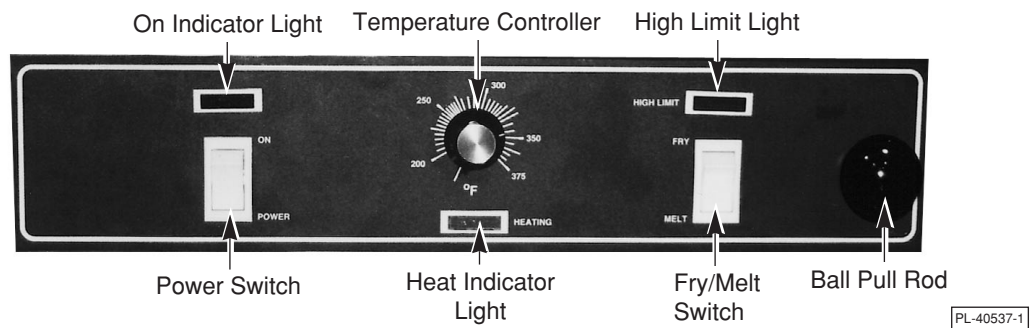
VF1/VMF1
Fig. 1



VF2/VMF2
Fig. 2

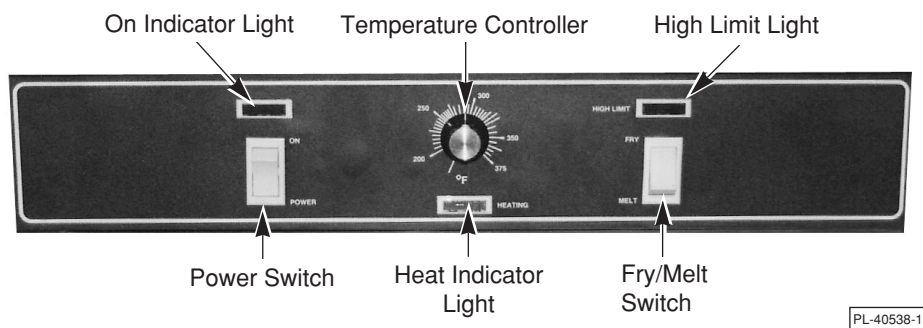
CONTROLS — MODELS VF1D/VMF1D and VF2D/VMF2D (Fig's. 3 and 4)

- Power Switch** — Turns electric power to the fryer on or off.
- ON Indicator Light** — (Red) Indicates electric power to the fryer is on.
- HEAT Indicator Light** — (Amber) Indicates heating elements are supplying heat.
- High Limit Light** — When ON, indicates that the oil temperature is higher than 400°F, or that the heating elements are not covered with shortening, and the system has shut down. Call your Vulcan-Hart authorized servicer.
- Temperature Controller** — Controls temperature of oil in tank. Temperature range is 0-375°F.
- Fry/Melt Switch** — Position on MELT when solid shortening is being melted; then position on FRY for normal operation.
- Ball Pull Rod** — (Models VF1D/VMF1D only.) Raises elements from tank when pulled straight out. Lowers elements into tank when pushed in.



VF1D/VMF1D

Fig. 3



VF2D/VMF2D

Fig. 4

ADDING LIQUID SHORTENING TO THE FRYER

Shortening should be between 1" and 2" above the top of the heating elements' surface.

Liquid shortening may be used in all fryers.

1. Push power switch to OFF and allow fryer to cool.
2. Remove the fryer basket(s) and support rack (support rack in VF2/VMF2 and VF2D/VMF2D only).
3. Leave the heating elements in the tank (VF1/VMF1 and VF1D/VMF1D).
4. **VF1/VMF1 / VF1D/VMF1D:** Pour 30-35 pounds of shortening into the fryer tank.
VF2/VMF2 / VF2D/VMF2D: Pour 78-82 pounds of shortening into the fryer tank.
5. Replace the rack support (VF2/VMF2 and VF2D/VMF2D only) and fryer basket(s) inside the tank.
6. Push power switch to ON and turn temperature controller or thermostat to desired frying temperature.

ADDING SOLID SHORTENING TO THE FRYER

Only fryers equipped with the MELT cycle may use solid shortening. Melting solid shortening without using the MELT cycle will damage the fry tank and scorch the shortening. Tank warranty may be voided by improper operation.

Models VF1/VMF1 and VF1D/VMF1D

1. Push power switch to OFF and allow fryer to cool.
2. Remove fryer baskets.
3. Leave the heating elements in the tank.
4. Place 30-35 pounds of solid block shortening in the fryer tank on top of the heating elements.
5. Follow melt cycle operation.

Models VF2/VMF2 and VF2D/VMF2D

1. Remove fry basket and rack support.
2. Place 78-82 pounds of solid block shortening in the fryer tank and pack around the heating elements.
3. Place basket rack support on top of shortening.
4. Follow melt cycle operation.

Melt Cycle Operation

1. Set the temperature controller knob to frying temperature.
2. Push power switch to ON.
3. Push Fry/Melt Switch to MELT. The elements will cycle on for 2 seconds and off for 28 seconds until the shortening melts and reaches a temperature of 135°F. The temperature controller will bring the shortening to the frying temperature.
4. Place Fry/Melt Switch in the FRY position when ready to fry.

FRYING

Place the ON-OFF switch to the ON position. The red ON indicator light will come on.

Turn thermostat or temperature controller to desired temperature. The amber HEAT indicator light will come on.

When the shortening temperature reaches the set temperature, the amber HEAT light will go off. The heating elements (and the amber HEAT light) will cycle on and off to maintain the set temperature.

Pieces of product to be fried should be about the same size to ensure uniform doneness.

Drain or wipe dry raw or wet foods to minimize splatter when lowering into the hot oil.

Fill frying baskets half full. Do not overfill baskets.

Carefully lower baskets into oil.

When cooking French fries or onion rings, shake basket several times in a way that does not splatter the shortening.

Batter-covered foods should be dropped carefully, one by one, into shortening or basket. If you use the basket, first dip basket into the shortening to reduce batter build-up on basket surfaces.

When frying is completed, remove baskets or product. Hang baskets to drain on rear basket hangers. Remove food and season it. Do not salt food over the shortening because salt will cause a chemical change in the oil.

Add fresh shortening as needed. Shortening should be between 1 and 2 inches above the heating elements.

TURNING THE FRYER OFF

To turn the fryer OFF, place the ON-OFF switch to the OFF position.

Extended Shutdown

Place ON-OFF switch to OFF. Turn thermostat knob to OFF. Apply a thin film of cooking oil to tank interior and tank back to inhibit rust.

HIGH LIMIT CONTROL

If the shortening becomes overheated, or if the heating elements are not covered with shortening, the high limit control will shut down the entire control system and the fryer will be inoperable.

If the heating elements are not covered with shortening, add shortening until the level is 1 or 2 inches above the top of the heating elements. When the temperature of the shortening returns to normal (300°F), manually reset the circuit breakers (located behind the fryer door on floor model fryers and behind the lower panel on countertop models).

If the high limit control continues to shut the fryer down, contact your authorized Vulcan servicer.

DAILY FILTERING

Shortening life will be extended by filtering at least once a day, or more often if conditions warrant.

Models VF2/VMF2 and VF2D/VMF2D are equipped with a 1/4 turn ball type drain valve. Models VF1/VMF1 and VF1D/VMF1D have a removable fry tank that can be lifted out by raising the heating elements out of the tank, or the shortening can be syphoned out as follows:

Models VF1/VF1D

Turn the fryer off and allow shortening to cool. Place the syphon assembly (Fig. 5) so that the short tube rests on the bottom of the tank and the long tube projects down through the hole in the grease trough. Tie the filter bag to the end of the long tube. Provide a metal container of sufficient capacity at the end of the long tube inside the storage compartment.

To start the syphoning action, push the stopper in the bowl closed. Fill the bowl with **clean** liquid shortening. Pull the stopper to allow shortening to start draining. Push the stopper closed before all the shortening is drained from the bowl. To stop draining, pull the stopper and empty the bowl completely.



Fig. 5

Models VMF1/VMF1D

Turn the fryer off and allow shortening to cool. Place the syphon assembly (see Fig. 5) so that the short end rests on the bottom of the tank and the long tube projects down in front of the fryer. Tie the filter bag to the end of the long tube. Provide a metal container of sufficient capacity at the end of the long tube.

To start the syphoning action, push the stopper in the bowl closed. Fill bowl with **clean** liquid shortening. Pull stopper to allow shortening to start draining. Push stopper closed before all the shortening is drained from the bowl. To stop draining, pull stopper and empty the bowl completely.

Models VF2/VMF2 and VF2D/VMF2D

1. Turn the fryer off and allow shortening to cool.
2. Slowly remove the baskets to prevent splashing.
3. Open the fryer door and place a metal container of sufficient capacity below the drain pipe.
4. If a filter bag is used, tie it securely to the drain pipe. If other filter medium is used, place it in the metal container.
5. Open the drain valve carefully so the oil stream is directed through the filter.
6. With a small amount of warm shortening, flush out scraps and sediment in the fry tank. Drain the tank thoroughly and wipe clean.
7. If it is necessary to clean the tank more thoroughly, follow the procedures shown in CLEANING — WEEKLY OR AS REQUIRED in this manual.
8. Close the drain valve.
9. Return strained shortening to the fry tank.
10. Add shortening until the level is between 1 and 2 inches above the heating elements.

CLEANING

Daily

Clean the exterior of your fryer regularly with a damp cloth and polish with a soft dry cloth. If regular cleaning is neglected, grease will be burned on and discolorations may form. These may be removed by washing with any detergent or soap and water. A self-soaping scouring pad may be used for particularly stubborn discolorations. Always rub with the "GRAIN" in a horizontal direction.

Keeping the fryer exterior clean and free of accumulated grease will prevent stubborn stains from forming. Wash all exterior surfaces at least once daily. Use a cloth with warm water and a mild soap or detergent. Follow with a clear rinse, then dry.

Fingerprints are sometimes a problem on highly polished surfaces of stainless steel. They can be minimized by applying a cleaner that will leave a thin, oily or waxy film. To use these cleaners, simply wipe on and remove excess with a soft dry cloth. After using, subsequent fingerprints will usually disappear when wiped lightly with a soft dry cloth or with a cloth containing a little of the cleaner.

If the surface is heavily soiled to start with, wash first with soap or detergent and water.

Weekly or as Required

1. Once the shortening has been drained, flush out scraps and sediment with a small amount of warm shortening. Allow the tank to drain thoroughly.

2. Close the drain valve (Models VF2/VMF2 and VF2D/VMF2D only).
3. Fill the tank with a non-corrosive, grease-dissolving commercial cleaner, following the manufacturer's instructions.
4. Turn the fryer on and set the thermostat or temperature controller at a temperature recommended by the manufacturer of the commercial cleaner. Boil the solution for 15 to 20 minutes. If cleaner is a water based chemical, temperature may be 190-212°F. Set the temperature as low as possible; monitor boiling to prevent overflow.
5. Drain (Models VF2/VMF2 and VF2D/VMF2D) or syphon (Models VF1/VMF1 and VF1D/VMF1D) cleaning solution from the tank.
6. Close the drain valve (Models VF2/VMF2 and VF2D/VMF2D only).
7. Refill the fry tank with water. Add 1 cup of vinegar to neutralize alkaline left by the cleaner. Bring solution to a boil and allow it to stand for a few minutes.
8. Drain (Models VF2/VMF2 and VF2D/VMF2D) or syphon (Models VF1/VMF1 and VF1D/VMF1D) solution from the tank and rinse thoroughly with clear, hot water. All traces of cleaner must be removed. Dry the tank thoroughly.
9. Close the drain valve (Models VF2/VMF2 and VF2D/VMF2D only).
10. Add shortening until the level is between 1 and 2 inches above the heating elements.

The fryer is now ready for use.

Heat Tint

In and around equipment where temperatures reach 500°F or more, straw-colored or slightly darkened areas may appear on stainless steel. This "Heat tint" is caused by a slight oxidation of the stainless steel and is not harmful. To control this condition, never use more heat than is absolutely necessary. Heat tint can be removed by scouring vigorously with stainless steel wool and a paste made of a scouring powder. Remember to rub in the direction of the polish lines.

Burned-On Foods and Grease

Soaking with hot soapy water will help greatly to remove burned-on foods and grease. Stubborn deposits can be removed with scouring powder mixed into a paste and applied with stainless steel wool or sponges. Never use ordinary steel wool; particles of the steel wool can become embedded in, or lodge on, the surface of the stainless steel and eventually rust, causing unsightly spots and stains.

Likewise, when scraping off heavy deposits of grease or oil from stainless steel equipment, never use ordinary steel scrapers and knives. Where it is necessary to scrape, use stainless steel, wood, plastic or rubber tools.

MAINTENANCE

WARNING: HOT OIL AND PARTS CAN CAUSE BURNS. USE CARE WHEN OPERATING, CLEANING AND SERVICING THE FRYER.

WARNING: SPILLING HOT FRYING COMPOUND CAN CAUSE SEVERE BURNS. DO NOT MOVE FRYER WITHOUT DRAINING ALL FRYING COMPOUND FROM THE TANK.

LUBRICATION

The motors in all fryers are permanently lubricated and no lubrication is required.

SERVICE AND PARTS INFORMATION

To obtain service and parts information concerning these fryers, contact the Vulcan-Hart Service Depot in your area (refer to listing supplied with the fryer), or Vulcan-Hart Company Service Department at the address or phone number shown on the front cover of this manual.